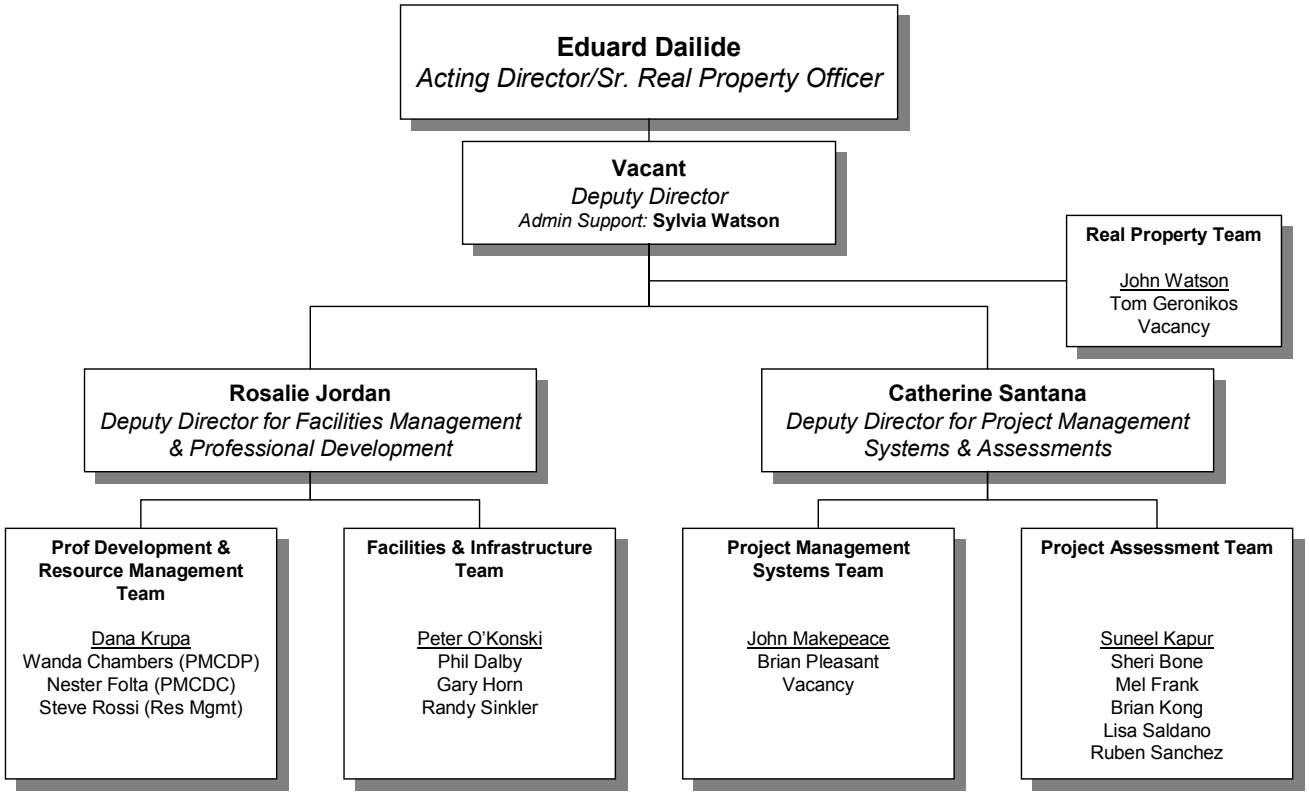
CAIS Users Group – October 2006

Headquarters News

Gary Horn – Office of Engineering and
Construction Management

OECM Changes



PMA News

DOE HAS ATTAINED GREEN STATUS!!!!!

President's Management Agenda
DEPARTMENT OF ENERGY

REAL PROPERTY **Agency Lead: Eduard Dailide, Senior Real Property Officer** **Lead RMO Examiner: Joel Parriott** **Lead OFFM Analyst: Angela Donatelli**	Green ↑	Asset management plan (AMP) X in place by Q1 2005 (Y) X consistent with Federal Real Property Council (FRPC) standards or expected equivalent by Q2 2005 (Y) X OMB-approved by Q2 2005 (Y) X 3 year timeline for meeting plan goals/objectives by Q3 2006 (G) X evidence that plan is being implemented to achieve improved real property mgmt by Q4 2006 (G) Accurate and current inventory X in place by Q3 2004 (Y) X consistent with FRPC standards or expected equivalent by Q3 2004 (Y) X provided to govt.-wide real property database by Q3 2004 (Y) X used in daily management decision-making by Q3 2004 (G) Real property performance measures X in place by Q3 2004 (Y) X consistent with FRPC standards or expected equivalent by Q3 2005 (Y) X used in daily management decision-making by Q4 2006 (G) X Evidence that real property management is consistent with agency strategic plan, AMP, and performance measures by Q4 2006 (G)	Green	<u>Actions taken this quarter:</u> • Met all Q4 '06 milestones identified in the three year timeline, PBT4 and AMP. • Completed revisions to inventory system (FIMS) to capture FRPC disposal data for Q1 '07 reporting. • Demonstrated with asset specific examples, how DOE has utilized FRPC inventory and performance data to drive management decision-making. • Submitted status report on moving forward with identified disposal and investment actions. <u>Planned actions for next quarter:</u> • Confirm list of assets positioned for FY07 disposal and report on Q1 '07 disposals (include asset description and value). • Submit timely and accurate inventory and performance data to the FRPP no later than December 15th. • Apply Performance Assessment Tool to DOE assets and use results to assist Programs in their disposition planning. • Analyze Programs/Sites to identify methods to measure efficiency of facility operations and maintenance. Submit report to OMB of actions to be taken. • Using FY06 FRPP data and performance measures, evaluate program performance, and submit to OMB corrective actions. • Complete one third of site data validation studies.	• DOE is upgraded to Green in status and remains Green in progress. DOE has completed the remaining Green standards, successfully demonstrating that they are meeting the milestones in the three year timeline, using performance data in decision-making and demonstrating results toward the rightsizing goal. • Critical next steps for DOE are to continue to meet the milestones of the three year timeline, meet the disposal milestones identified, and continued demonstration of results toward the rightsizing goal. Constructed asset level reporting is required for ALL FRPC data elements. Data must be submitted to the FRPP no later than December 15th. Any instances where complete reporting is not possible should be brought immediately to the attention of OMB.

Department of Energy

Getting to Green in Real Property Management

A Presentation to the Office of Management & Budget

September 30, 2006

Purpose

Provide evidence that DOE meets Green criteria

of the Federal Real Property Asset Management Initiative under the President's Management Agenda

Agenda

- About DOE
- DOE Portfolio Management
- PMA Compliance Overview
- Results
- Maintaining Green in the Future

About DOE

Mission

Discovering the solutions to power and secure America's future

"Build, modernize & maintain facilities & infrastructure to achieve mission goals and ensure a safe and secure workforce."

Organization

15,000 Government employees

150,000 Contractor employees

6 major mission and property-owning programs

Portfolio

3.1 million acres

20,000 buildings & structures (127 MSF)

$94 billion Replacement Plant Value

About DOE

47 Major Sites Nationwide

About DOE

47 Major Sites Nationwide

Brookhaven National Laboratory

- *Large and small*
- *Government owned, Contractor operated*
- *Own personalities*
- *Complex missions*
- *Function like small towns*
- *Major regional employer*
- *Unique asset portfolios*
- *Different M&O contractors*
  - *Different accounting systems*
  - *Different work management systems*

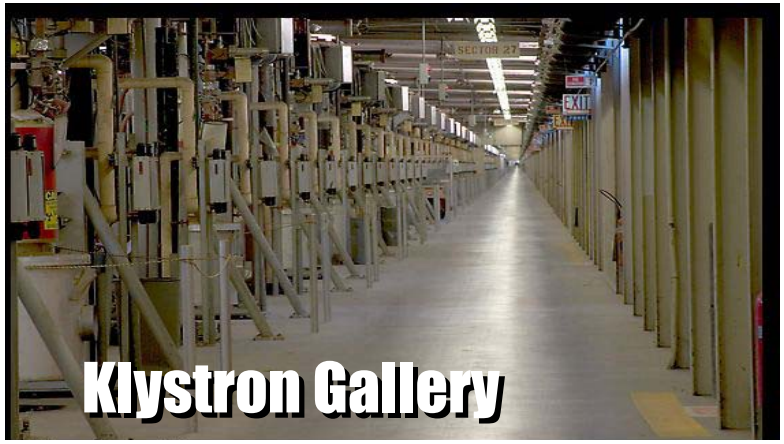
DOE has a single site larger than the state of Rhode Island

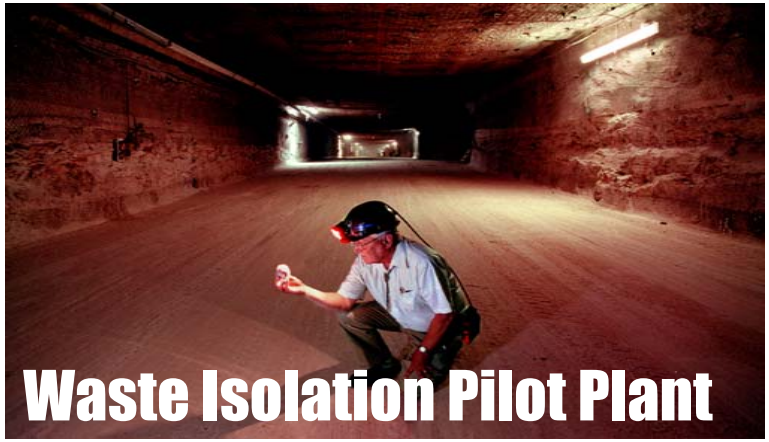
About DOE

Every type of facility . . .

About DOE

. . . and many of one-of-a-kind facilities

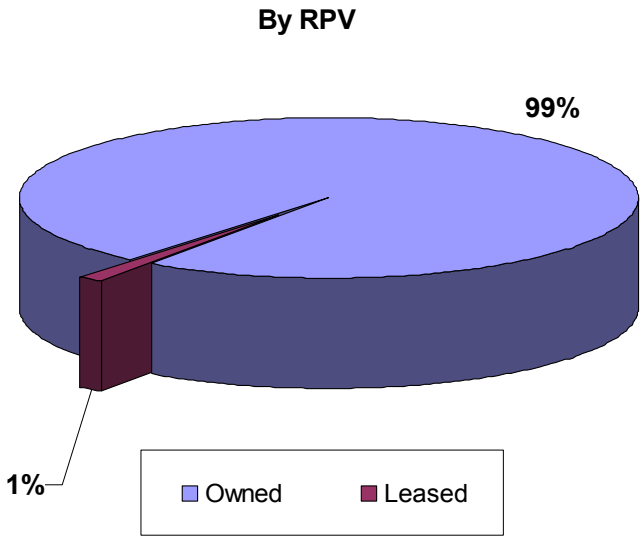


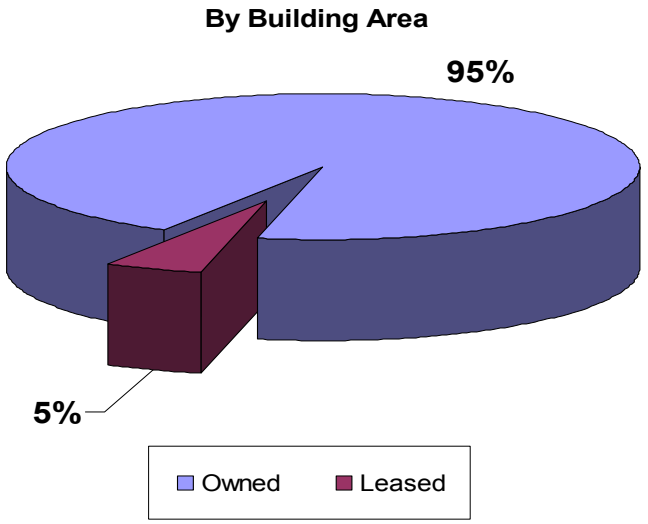


DOE maintains over 600 nuclear facilities…

About DOE

Buildings Owned Versus Leased (Total GSF About 127M)





Space Leasing Policy / Cost Control

- ***Site managers review requirement annually (typically part of the Ten Year Site Planning process)***
- ***All leases performed through GSA at prevailing market rates***

In FY06, DOE returned 62,000 SF of rental space resulting in $1.8M in avoided cost

Agenda

- About DOE
- DOE Portfolio Management
- PMA Compliance Overview
- Summary of Results
- Maintaining Green in the Future

Portfolio Management

Advanced Light Source- LBNL

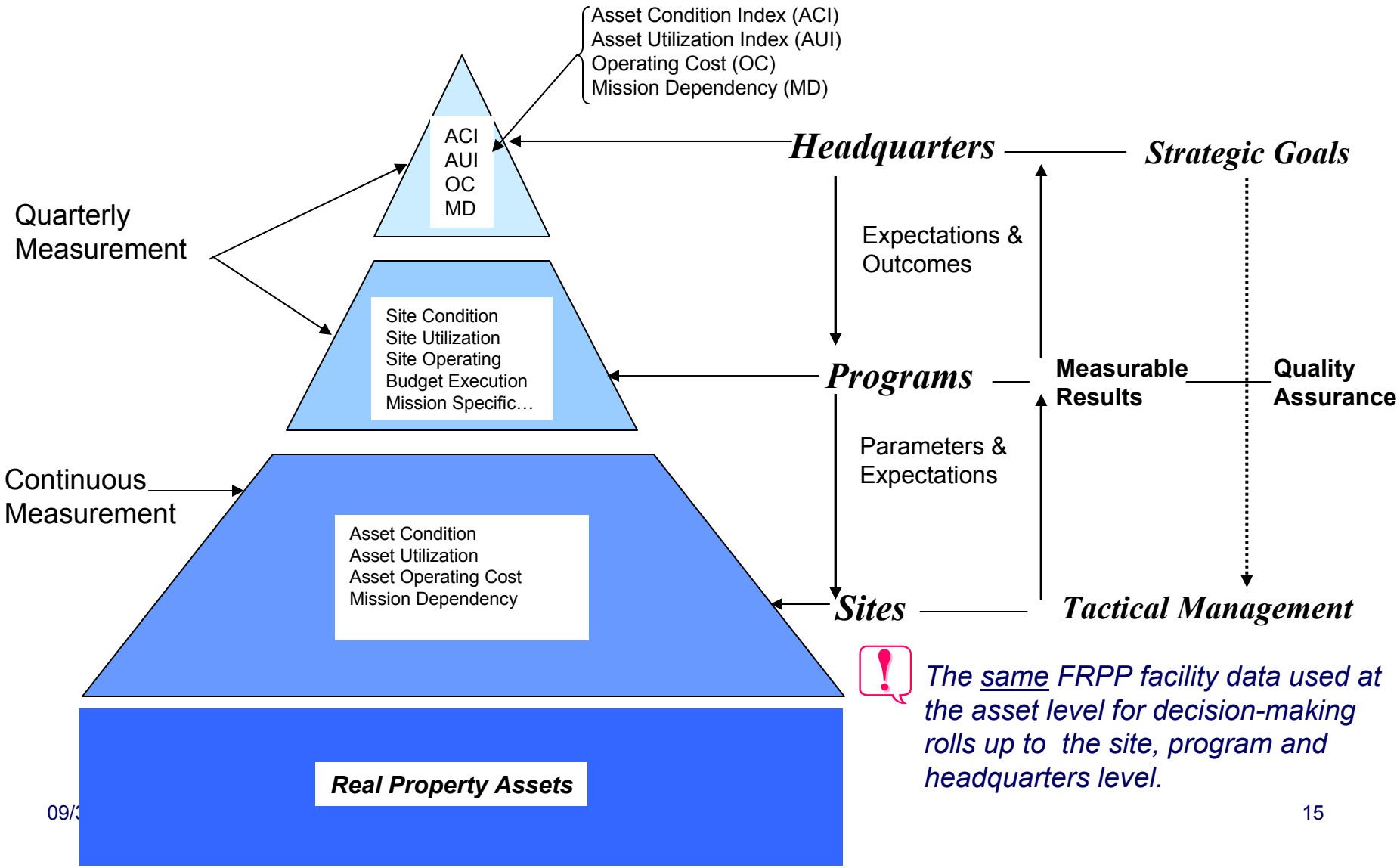
Business Practices:

- –Outcome-based management
- –Separate Program appropriations
- –Different accounting systems
- –Sites manage at the property level
- –Outcomes compared amongst different sites and programs

Tevatron-Fermilab

Wilson Hall -Fermilab

Portfolio Management - Line Management of Real Property



Portfolio Management - Performance Measurement & Feedback

The Department of Energy

Consolidated Quarterly Performance Report

Third Quarter FY 2006

CQPR is a Program level report that includes real property management performance measures

- *Programs hold sites accountable for their contribution to the overall results*
- *Programs ensure sites take appropriate action*

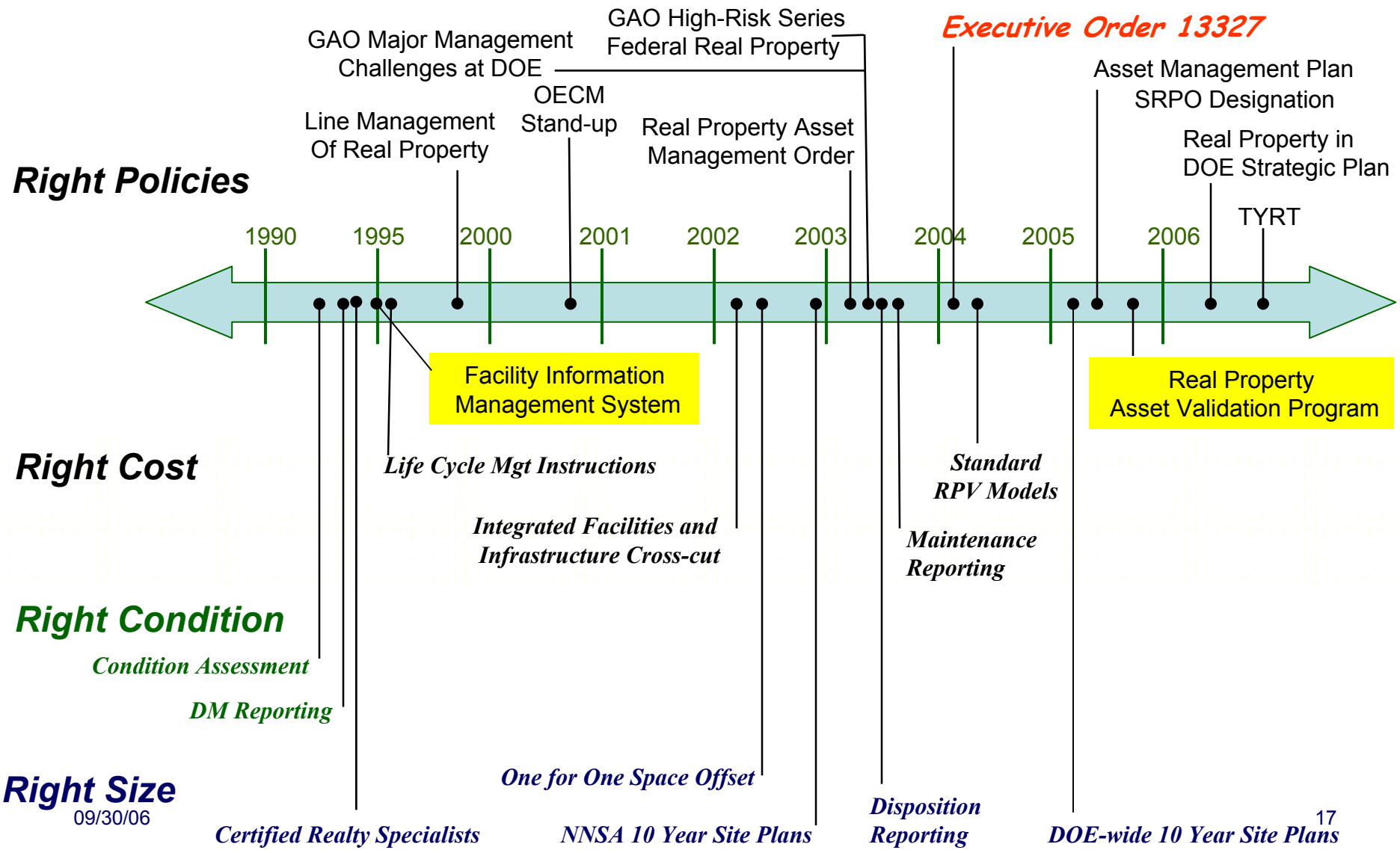
Internal Scorecard for Real Property Asset Management
Third Quarter, FY 2006

Office/ Admin	Status Score	Scoring Criteria
Energy, Science and Environment		
EE	Green	• Adequate facilities condition and funding.
EM	Yellow	• Data validations complete for Savannah River Site, Paducah, and ETTP, Richland Operations Office, WIPP, Office of River Protection, and Idaho National Lab, with Portsmouth is scheduled for 1 August 2006. • EM conducted FIMS Validation classes at Richland and at Oakridge during the quarter. • EM is making headway on review and correction of facilities inventory data.
FE	Green	• Annual maintenance and repair funding is adequate if caverns are eliminated from replacement plant value. • Facility condition is adequate.
LM	Green	Industry standard for maintenance funding of 2 to 4 percent is not applicable to LM because of the unique nature of LM facilities. However, lack of deferred maintenance indicates funding is adequate. • LM reorganized its sites within FIMS to better comply with FRPC reporting requirements.
NE	Yellow	• Overall facilities condition not up to standard. • Annual maintenance and repair funding does not meet directed level of 2 to 4 percent of replacement plant value. • The TYSP for INL identifies resource requirements for deferred maintenance reduction. The TYSP is being used to support Section 955 of EPAC which requires development of a plan to eliminate DM at INL. The current IFI budget does not support DM reduction. NE remains yellow pending issuance of the EPAC section 955 report to Congress.
RW	Yellow	• Adequate facilities condition and funding based on inventory data. However, approved Ten Year Site Plan highlights poor facilities condition. • Inconsistency between approved Ten Year Site Plan and FIMS data should be resolved.
SC	Yellow	• Overall facilities condition not up to standard. • Dedicated deferred maintenance program in place to improve facilities condition. • Annual maintenance and repair funding meets PBD directed level.
National Nuclear Security Administration		
NNSA	Yellow	• Overall facilities condition not up to standard. • Dedicated deferred maintenance program in place to improve facilities condition. • Annual maintenance and repair funding does not meet directed level of 2 to 4 percent. of replacement plant value.

ANALYTICAL SUMMARY FOR REAL PROPERTY:

Scoring for the third quarter is based on overall support of Departmental priorities for facilities asset management (facilities condition and funding level), as well as inventory data quality. All Programs should review their data to ensure that reported data is accurate. The Department is currently preparing its Three Year Rolling Timeline, to implement the goals and objectives of the Asset Management Plan. This document, when complete, will contain performance targets and actions that DOE must take as part of the President's Management Agenda. Program scores for future quarters will take these requirements into account.

Portfolio Management - Evolution at DOE



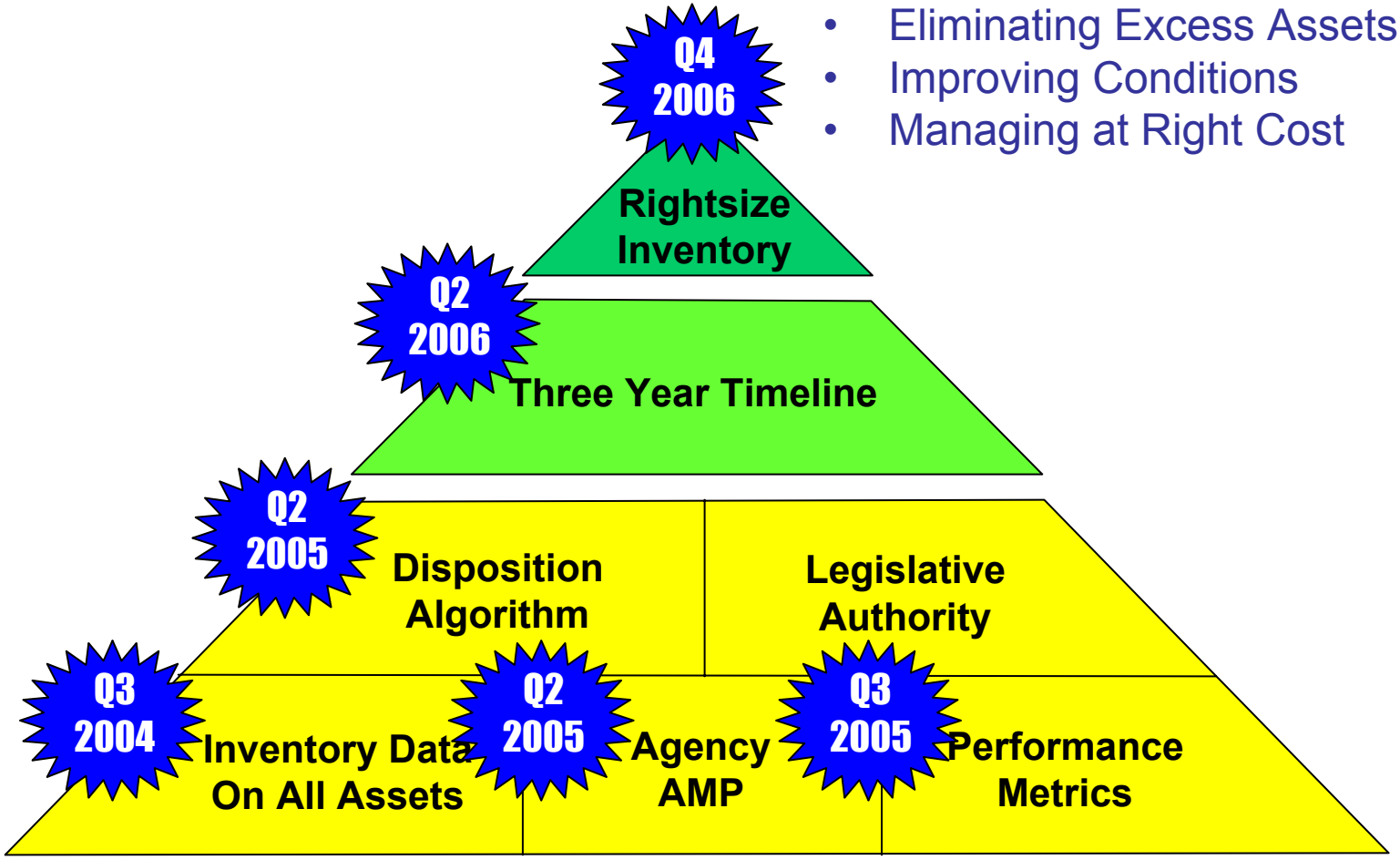
09/30/06

Agenda

- About DOE
- DOE Portfolio Management
- PMA Compliance Overview
- Summary of Results
- Maintaining Green in the Future

PMA Compliance

- Eliminating Excess Assets
- Improving Conditions
- Managing at Right Cost



PMA Compliance

Initiative	Current Status (As of June 30, 2006)		Progress in Implementing the President's Management Agenda		Comments
REAL PROPERTY **Agency Lead: Robert McMullan, Senior Real Property Officer** **Lead RMO Examiner: Joel Parriott** **Lead OFFM Analyst: Angela Donatelli**	 Yellow Next ↑ est. by Q4 2006	Asset management plan (AMP) X in place by Q1 2005 (Y) X consistent with Federal Real Property Council (FRPC) standards or expected equivalent by Q2 2005 (Y) X OMB-approved by Q2 2005 (Y) X 3 year timeline for meeting plan goals/objectives by Q3 2006 (G) __ evidence that plan is being implemented to achieve improved real property mgmt by Q4 2006 (G) Accurate and current inventory X in place by Q3 2004 (Y) X consistent with FRPC standards or expected equivalent by Q3 2004 (Y) X provided to govt.-wide real property database by Q3 2004 (Y) X used in daily management decision-making by Q3 2004 (G) Real property performance measures X in place by Q3 2004 (Y) X consistent with FRPC standards or expected equivalent by Q3 2005 (Y) __ used in daily management decision-making by Q4 2006 (G) __ Evidence that real property management is consistent with agency strategic plan, AMP, and performance measures by Q4 2006 (G)	 Green	Actions taken this quarter: Finalized the three year timeline (3YT) and received OMB approval. Completed all Q3 2006 activities outlined in the PTB/AMP/3YT. Updated the framework of internal controls for reported operating and maintenance cost data. Enhanced querying and analysis capabilities in the Department's FIMS to increase accessibility and use of real property information. Update all Ten Year Site Plans to include FRPP data and prioritized real property investments and dispositions. Prepared outline of approach for meeting Green standards and outline of the Green Presentation. Planned actions for next quarter: Meet all Q4 '06 milestones identified in the Three year timeline, PBT4 and AMP. Complete revisions to FIMS to capture FRPC disposal data for Q1 '07 reporting. Demonstrate (including asset specific examples) how DOE has utilized FRPC inventory and performance data to drive management decision-making. Provide status on progress in moving forward with identified disposal and investment actions. Present a draft Green Presentation in July and a final green presentation on September 15.	DOE remains "yellow" in status and "green" in progress. DOE continues to hold to the ambitious goal of an upgrade to "green" status by Q4 2006. OMB will closely monitor progress. The Green Presentation must demonstrate measurable change to the DOE portfolio in the areas of disposing of unneeded assets, condition improvements, and managing operating costs. Using FRPP and agency data, DOE should continue finalizing prioritized lists of assets for disposal or investment and move forward with prioritized actions. Disposition data elements have been added to the Q1 '07 FRPC reporting requirements. Agencies unable to report disposition data via the FRPP will need to submit a waiver request to OMB no later than September 1st and will be required to report the data using a common template. Constructed asset level reporting is expected for all data elements in the Q1 '07 reporting cycle. Any instances where this will not be possible should be brought to OMB's attention.

Agenda

- About DOE
- DOE Portfolio Management
- PMA Compliance Overview
- Results
- Maintaining Green in the Future

Results - at a Glance

FRPC Performance Measures Matrix									
Performance Measures		**Baseline**		**Target**				**Achieve Target**	**Comments**
		FY 2004	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**Long Term**		
Asset Utilization Index	**Office**	94.93%	92.39%	93.00%	93.50%	94.00%	95.00%	2011	Excludes Closure Sites.[1] Closure sites Include: Mound, Fernald, Rocky Flats, Ashtabula, and Weldon Springs
	Warehouse	88.90%	88.06%	88.00%	88.50%	88.50%	89.00%	2010	
	Laboratory	89.08%	89.62%	85.00%	86.00%	87.00%	90.00%	2012	
	Hospital	86.06%	87.19%	87.00%	87.50%	88.00%	90.00%	2012	
	Housing	99.59%	99.67%	99.00%	99.00%	99.00%	99.00%	2006	
Disposition - Excess Elimination ($RPV)		$163M	$843M	$788M	$1,616M	$2,430M	$2B/Yr	2020	Long term goal - less than 5 percent of inventory (GSF) is excess.
Asset Condition Index	**Mission Critical**	NA	0.959	0.960	0.962	0.964	0.980	2015	
	Mission Dependent	NA	0.945	0.946	0.947	0.948	0.950	2010	
	Not-Mission Dependent	NA	0.961[2]	0.950	0.900	0.850	0.850	2008	Operating assets only.
Asset Condition Index Department -Wide		0.94	0.957	0.959	0.961	0.963	0.975	2014	All mission critical, mission dependent, and operating not mission dependent assets.
Operating Costs - Energy Consumption (BTU/SF)		2003 Baseline 235,879		231,161	226,443	221,726	177,381	2015	2005 Energy Policy Act. 20% reduction from 2003 baseline by 2015.
Operating Costs-Sustainment and DM Reduction ($/SF)		NA	$6.89	$7.00	$7.25	$7.50	$9.00	2014	FY 2006 dollars. National Academies of Science Recommends 2-4% of RPV which equates to $9-18/SF.
Operating Costs - Operations ($/SF)		NA	$1.10	$1.10	$1.10	$1.10	$1.10	2006	FY 2006 dollars. Includes grounds, janitorial, pest control, refuse, recycling, and snow removal.

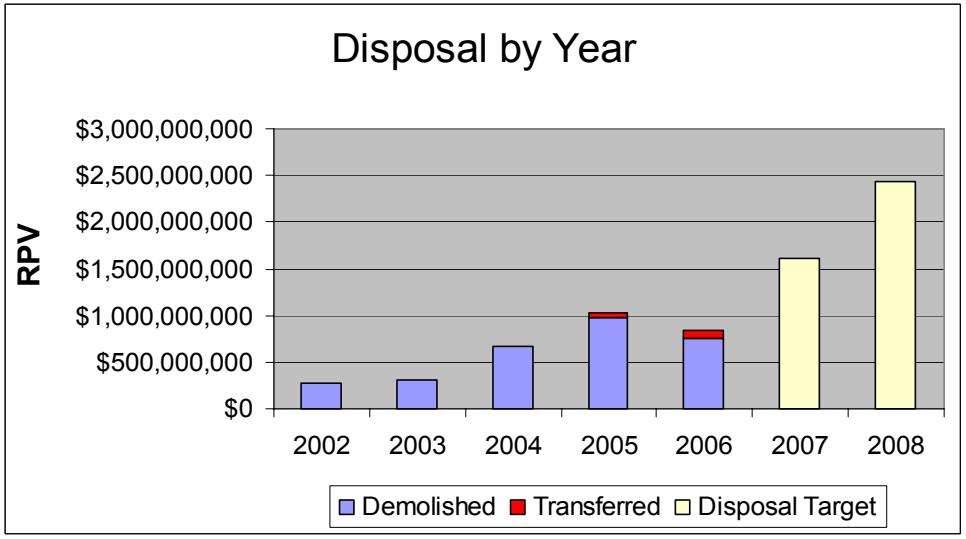
[1] Closure sites are removed from AUI metrics because the management decision to dispose of the site has been made, the site is under decontamination and demolition which takes years, and the sites are no longer in our active inventory.

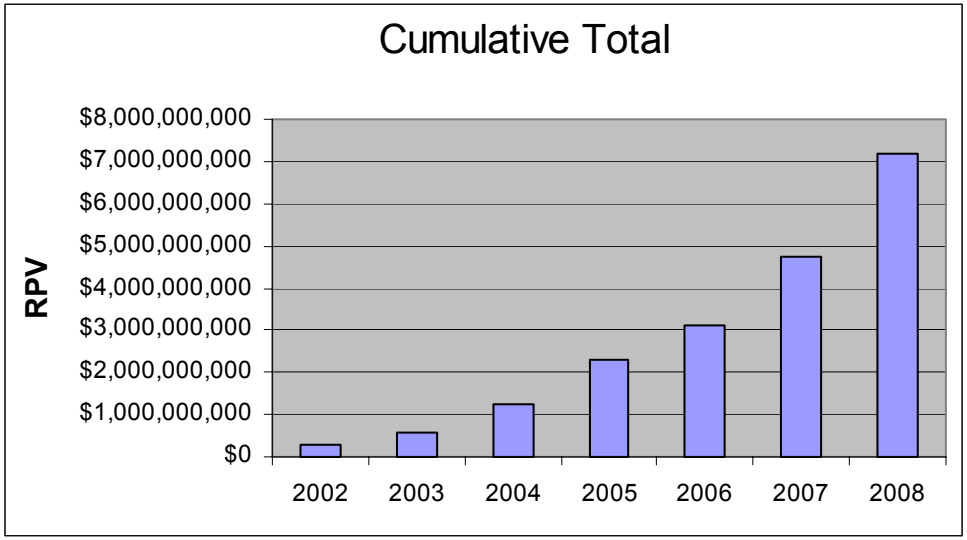
[2] We report deferred maintenance for only safety, health and environmental deficiencies for assets in a shutdown mode (FASAB #6 assumes operating assets). Therefore, many of the shutdown assets have zero deferred maintenance and including them would improperly inflate the ACI of our not-mission dependent asset category.

Results - Excess Elimination

Eliminating Excess Assets FY 02 to FY 09									
FY	Target For Elimination			Actual Eliminated			% of Target Eliminated (RPV)	Cost Avoidance/ Yr	Cumulative RPV of Assets Eliminated/ Planned
	RPV	# Of Assets	GSF	RPV	# Of Assets	GSF			
FY 02	N/A	N/A	N/A	$279,504,663	360	1,510,243	-	$2,869,462	$279,504,663
FY 03	N/A	N/A	N/A	$312,082,353	393	1,129,342	-	$2,145,750	$591,587,016
FY 04	N/A	N/A	N/A	$674,339,909	527	2,800,474	-	$5,320,901	$1,265,926,925
FY 05	N/A	N/A	N/A	$1,029,311,442	473	4,111,764	-	$7,812,352	$2,295,238,367
FY 06	$788,456,532	270	1,773,232	$835,573,943	240	2,096,825	106%	$3,983,968	$3,130,812,310
FY 07	$1,616,328,720	264	3,640,380	-	-	-	-	-	$4,747,141,030
FY 08	$2,429,709,343	268	5,416,970	-	-	-	-	-	$7,176,850,373
FY 09	$1,332,000,000	250	3,000,000	-	-	-	-	-	$8,508,850,373

Results – Excess Elimination





Program:

- Aggressive program, annual report to Congress
- Disposal plans are major element of each Ten Year Site Plan
- Goal: excess less than 5% of total GSF
- AUI & Disposition Algorithm identifies candidates

DOE projects a total disposition of $6.2B of the OMB $9.0B FY06-09 Government-wide target

Results – Excess Elimination

Disposal Algorithm Check			
Mission Dependency	Condition	O & M Costs	Utilization
☑	☑	☑	☑

- Decision Process
  - Sites
    - Review Mission Dependency, Condition, Utilization, Operating Costs for real property assets
    - Prioritize disposal actions for those assets no longer required/capable of meeting mission needs
    - Budget for disposals
    - Include disposition plan in Ten Year Site Plan
    - Record disposition actions in FIMS
  - Programs
    - Approve Ten Year Site Plans
    - Hold sites accountable to meet disposition goals
  - Headquarters and Programs
    - Run FRPP Performance Assessment Tool to identify potential assets for disposition
      - Reconcile FRPP Performance Assessment Tool outcomes with Site plans

Hanford Reactor C - Cocooned Reactor Core

Results – Excess Elimination

Eliminating Excess Assets

Sandia National Laboratories
Building 806

GSF:	*67,839*
Constructed:	*1960's*
RPV:	*$29.3M*
Action:	*Demolition*
Cost:	*$4.5M*
Cost Avoidance:	*$ 129K/yr*
DM Elimination:	*$5.5M*

Disposal Algorithm Check			
Mission Dependency	Condition	O & M Costs	Utilization
☑	☑	☑	☑

Results – Excess Elimination

Eliminating Excess Assets

Oak Ridge National Laboratory
Building 1000

GSF:	*57,752*
Constructed:	*1949*
RPV:	*$25.6M*
Action:	*Demolition*
Cost:	***$****1.7M*
Cost Avoidance:	*$110K/yr*
DM Elimination:	*$6.4M*

Disposal Algorithm Check			
Mission Dependency	Condition	O & M Costs	Utilization
☑	☑	☑	☑

Results – Asset Utilization

How We Improve Asset Utilization

- Aggressive excess elimination program
  - •Identification and disposition of unneeded assets reduces overall inventory and results in a net improvement in utilization
- Consolidation of under-utilized assets
  - •Consolidating under-utilized assets improves utilization and increases the candidates for disposition
- Modernize obsolete facilities for improved efficiency.
  - •Substandard space e.g. trailers do not allow efficient space use and fragment organizations
  - •Newer offices employ improved electrical systems and HVAC systems coupled with modular office layouts that foster collaboration and increase capacity

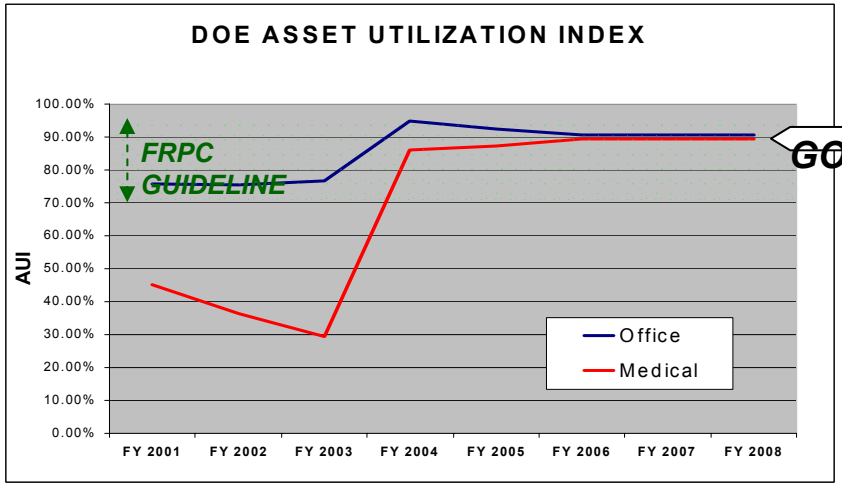
Benchmarks

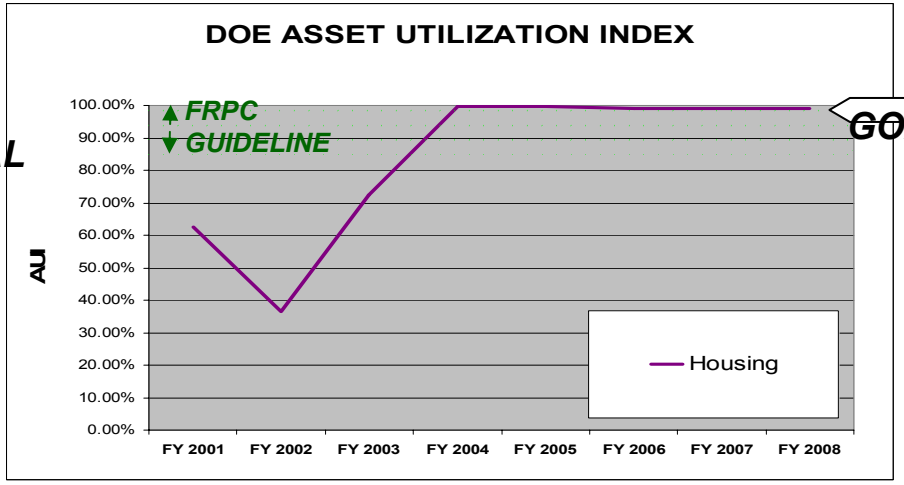
- •No commercial or institutional benchmarks identified for asset utilization
- • FRPC promulgated “rule of thumb” guidelines
  - –DOE targets the higher end of the FRPC guidelines and will examine opportunities for internal benchmarking

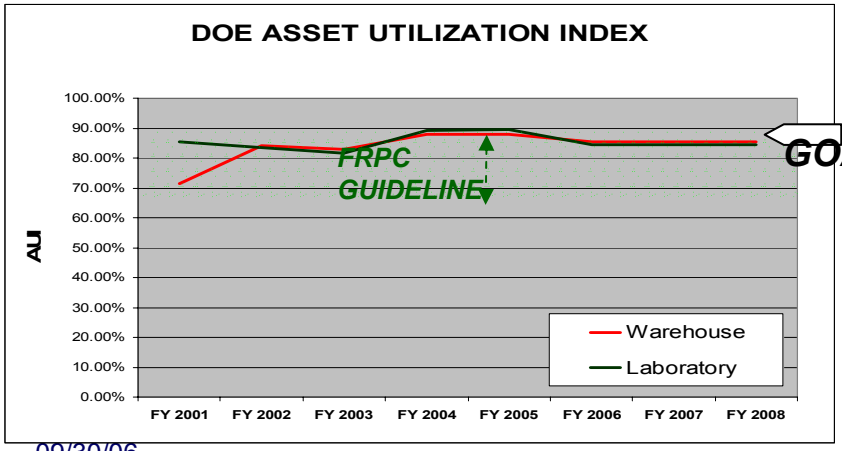
Strategic Petroleum Reserve – Current Capacity: 727M Barrels

Results – Asset Utilization

Improving Asset Utilization







Nevada Test Site (NTS)

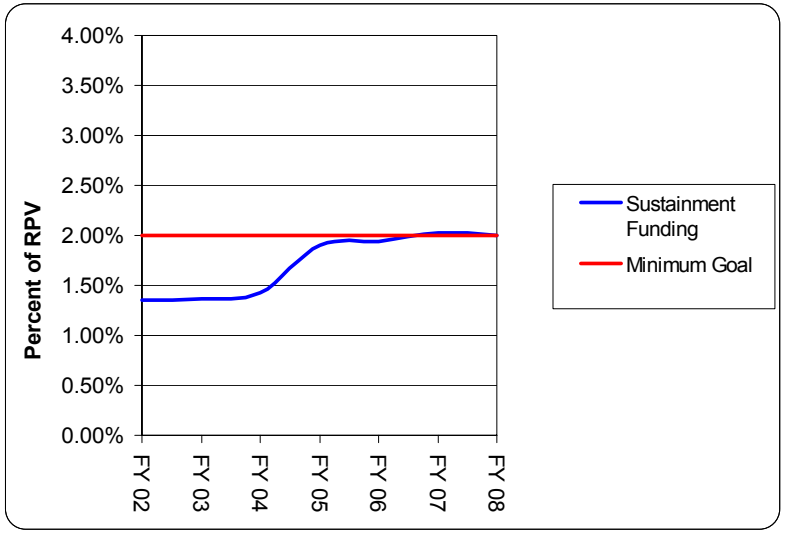
Results – Asset Utilization

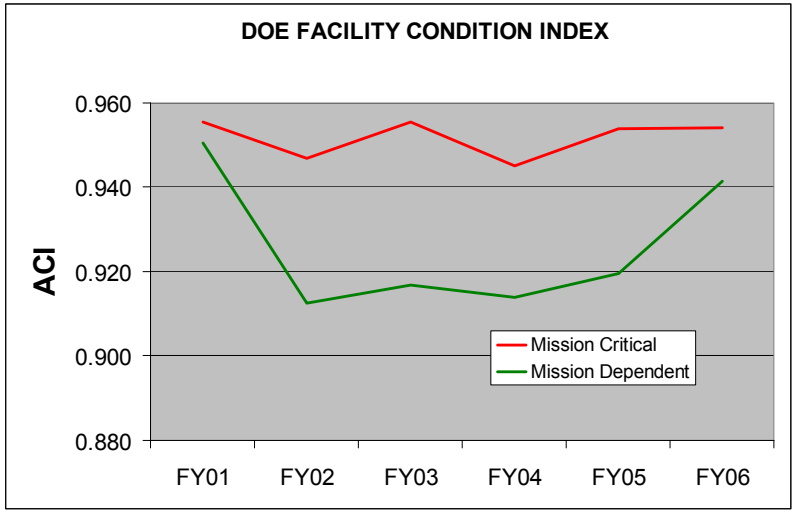
Improving Asset Utilization

Lawrence Livermore National Labs
Building 264

GSF:	*20,384*
Constructed:	*2005*
RPV:	*$4.8M*
Action:	*Replace multiple underutilized facilities with new construction*
Cost:	***$****4.8M*

Results – Facility Condition





How We Are Improving Conditions

- The critical first step in condition improvement was targeting a proper sustainment funding profile
  - Sustainment maintains existing facilities in good repair through timely, cost-effective maintenance
    - National Academies of Science recommends 2 – 4 percent of replacement plant value
- Improved Headquarters sustainment funding profile resulted in improved condition.
  - Mission Critical ACI improved from 0.944 to 0.955
  - Mission Dependent ACI improved from 0.915 to 0.942

Headquarters directed increases in sustainment funding resulted in a clear and measurable improvement in facility condition

Results – Facility Condition

How We Are Improving Conditions

- *AMP and TYRT Improve Facility Management*
  - –Asset Management Plan (AMP)
    - Demonstrates highest level of agency commitment to real property management.
    - Directs real property management bench-marking
    - Defines levels of responsibility and accountability
    - Provides strategic guidance and serves as a unifying document
  - –Three Year Rolling Timeline (TYRT)
    - Implements AMP strategies
    - Establishes performance goals
    - Directs that Ten Year Site Plans be kept current to reflect mission requirements
  - – Resulting Improvements:
    - Improved communication between Headquarters and Programs
      - – OECM conducts quarterly discussions with programs to communicate goals and expectations and share best practices
    - Facility funding profile (sustainment and recapitalization) has improved thereby improving condition

Underground Test Facility - NTS

Results – Facility Condition

How We Are Improving Conditions

- Effective Inspection Program Identifies Deficient Conditions
  - All operating facilities physically inspected at least every five years
    - Provides snap shot of deferred maintenance (DM)
    - Focuses on structural, mechanical electrical, roofing deficiencies
    - Enables facility managers to prioritize limited resources
  - DM is uploaded to Federal Real Property Profile and supplementally reported within the Department's financial statement
- Data Accuracy Management Validates Data Reliability
  - Roll-out of Department-wide data validation program in FY07
  - Programs and sites are accountable for data accuracy
  - Headquarters provides the quality assurance
  - *Progress made:*
    - Five training classes held
      - 105 Headquarters and field personnel trained in validation protocols
    - Ten site validations completed

128kV Substation - Argonne

Results – Facility Condition

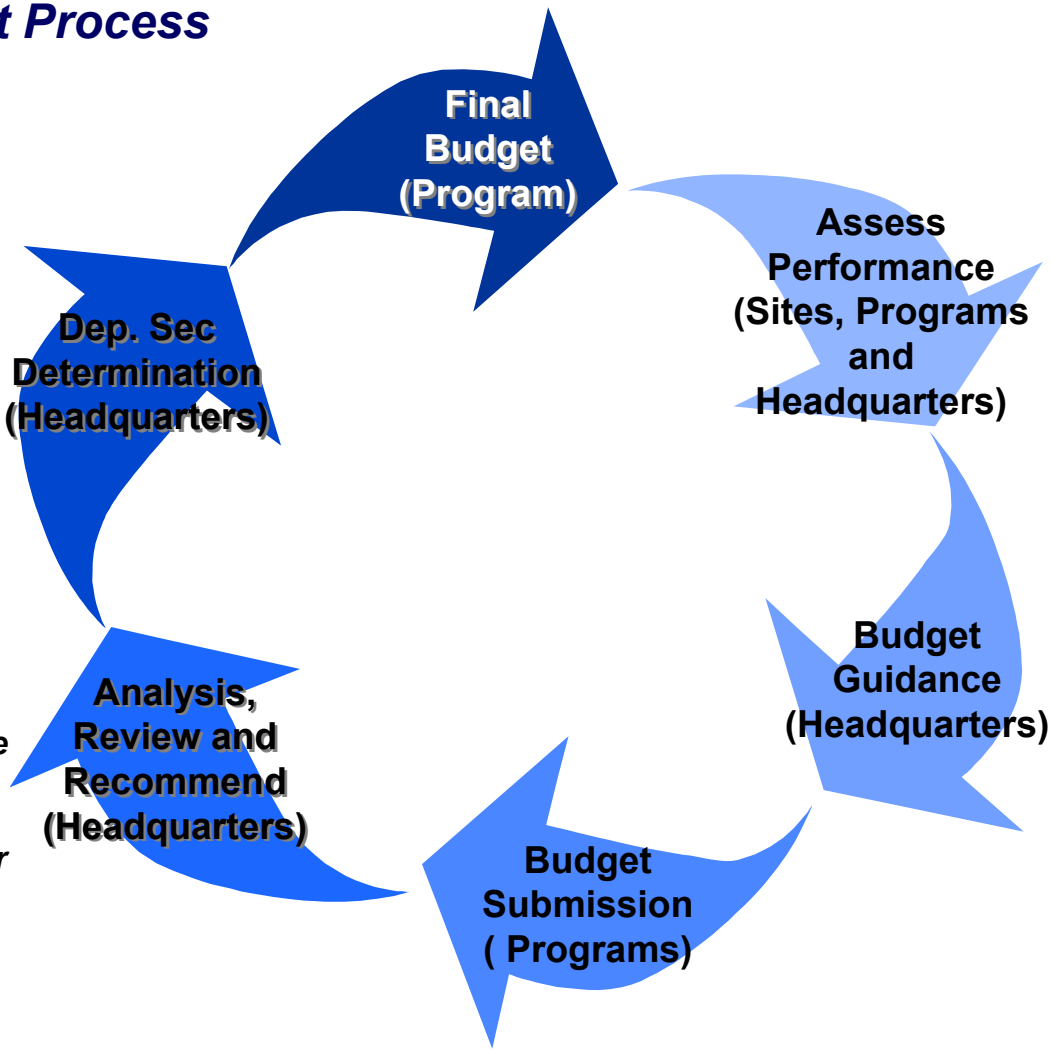
How We Are Improving Conditions

- Portfolio Condition Drives Prioritization and Resource Allocation During Budget Process
  - Maintenance funding and major rehabilitation programs based on Condition Index (CI) and Mission Dependency
    - Deferred maintenance flows to financial statements
  - When CI gets below 95% Headquarters directs that the Program institutes a DM reduction program targeted at one percent of RPV
    - Facilities and Infrastructure Recapitalization Program (FIRP)
      - The NNSA FIRP program stopped and reversed the NNSA maintenance backlog growth
    - Science Recapitalization Program
      - Using the NNSA FIRP model, Science has established their own backlog reduction program (see slides 33 and 34 for more discussion)
    - Nuclear Energy's Idaho National Laboratory Recapitalization Plan
      - NE is in the process of establishing a program similar to NNSA and Science to address the backlog of maintenance and repair at Idaho National Laboratory

Guardhouse & Road Repairs - Fermilab

Results – Facility Condition

Notional Process: Continuously Driving Program Decisions Via the Budget Process



Measure:
- *Condition*
- *Utilization*
- *Sustainment Performance*

Direct:
- *Condition Targets*
- *Utilization Targets*
- *Sustainment Targets*

Evaluate:
- *Proposed budgets*
- *Funding priorities*
- *Projected performance*

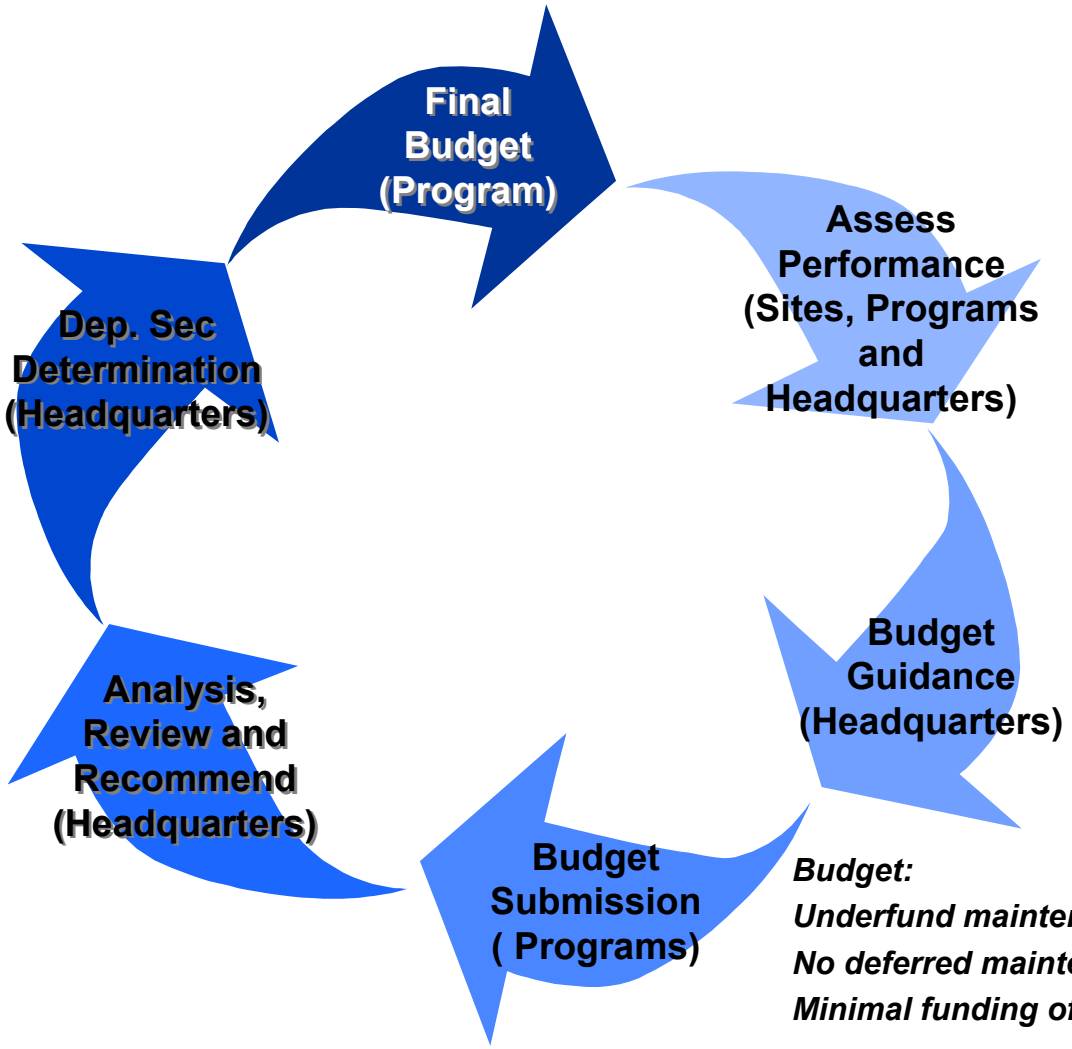
Generate:
- *Revisions to budget or*
- *Decision Paper to Deputy Secretary*

Results – Facility Condition

Example: Headquarters Directed Department of Science Recapitalization Program

Result:

- *Sustainment directed at $138M*
- *Recapitalization program established with ramp-up to $69M.*
- *Full funding of Bevatron D&D.*



Measure:

- *Condition – Marginal*
- *Utilization - Good*
- *Sustainment - Poor*

Direct:

- *Condition – FCI=.95*
- *Utilization -*
- *Sustainment - 2%-4% RPV*

Budget:

Underfund maintenance $126M

No deferred maintenance program

Minimal funding of Bevatron D&D.

Evaluation:

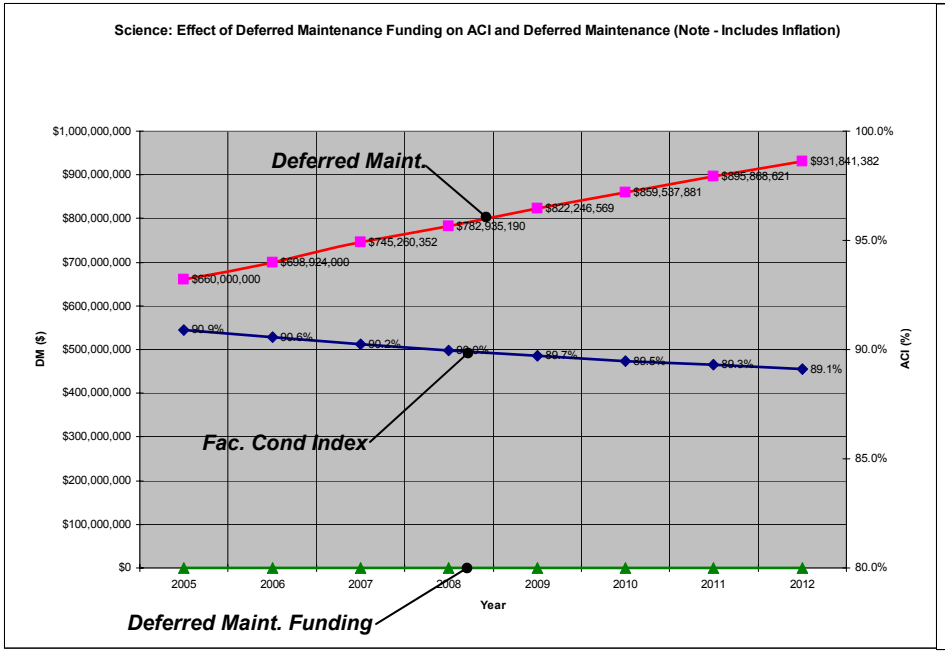
- *Recommended sustainment of $138M*
- *Recommended a recapitalization program of $69M*

Generated:

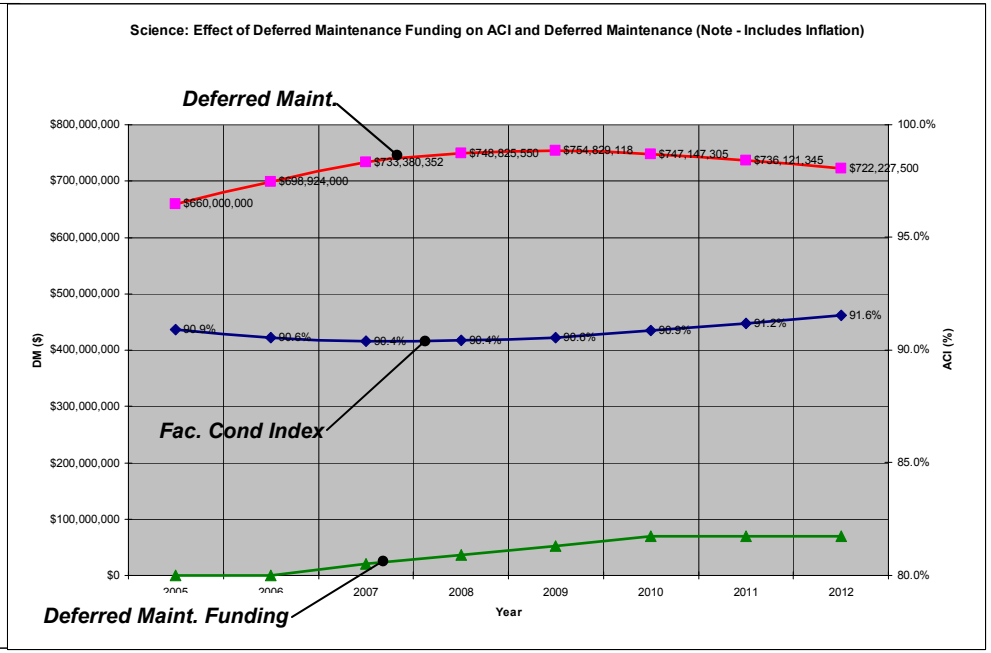
- *Issue paper to the Deputy Secretary*

Results – Facility Condition

Headquarters directed industry standard maintenance and deferred maintenance reduction program improves facility conditions



Original Budget Submission – Without DM reduction program



Final Budget Submission – With directed DM reduction program

By directing industry standard sustainment and establishing a deferred maintenance reduction program, the growth of deferred maintenance is stopped and then reversed…

Results – Facility Condition

Condition Index (CI) In Daily Decision Making

- CI available throughout the Department from the Department's Facility Information System (FIMS) and is used throughout the management hierarchy
- CI is used for:
  - Justifying necessary levels of sustainment spending
  - Establishing deferred maintenance reduction programs and addressing backlogs
  - Supporting decisions on what to renovate or eliminate
  - Example: Project prioritization matrix at Lawrence Livermore National Laboratory (next slide)

Yucca Mountain Tunnels

Results – Facility Condition

Example: Project Prioritization Matrix at Lawrence Livermore Laboratory

Task	Scope	Cost ($K)	DM ($K)	Mission	CI	DMR
1	B956 Air Handlers, Fans B956	735.0	399.0	MC	Poor	0.54
2	B912 Transformers & Switchgear	400.0	530.0	MC	Fair	1.33
3	B100 Motor Control Centers (4)	265.0	372.0	MD	Poor	1.40
4	B100 Low Voltage Feeder Cable	330.0	240.0	MD	Poor	0.73
5	B856 HEPA Filter	410.0	200.0	MC	Fair	0.49
	Totals	$2,140.0	$1741.0			0.81

- Decision support matrix (above) used to prioritize project execution
  - A criteria sheet for each project is prepared including scope, costs, Mission Dependency (MD), Condition Index (CI), and Deferred Maintenance (DM) Buy-Down Ratio (DMR)
  - From the criteria sheet, projects are ranked and prioritized based on MD, CI and DMR
  - A balanced portfolio of projects is selected and funded to support mission goals by the site

Results – Facility Condition

Improving Conditions

Sandia - Recapitalization Project
Roofing Backlog Reduction
Building 916

GSF:	*40,000*
Constructed:	*1960s*
RPV:	*$24.7M*
Action:	*Replace roof/equipment*
Reason:	*Deterioration*
Cost:	***$****540,000*
DM Elimination:	*$500,000*

Results – Facility Condition

Improving Conditions

Brookhaven - Hot Laboratory Renovation

Constructed:	*1949*
Action:	*Renovate labs and offices*
Reason:	*Improve conditions*
Cost:	*$6.6 M*
Cost Avoidance:	*$300k/yr/average*
DM Elimination:	*$6.6M*

Results – Facility Condition

Improving Conditions

Brookhaven - Electrical Systems Improvements Phase II

Constructed: *1950's era equipment*

Action: *Replace deteriorated equipment*

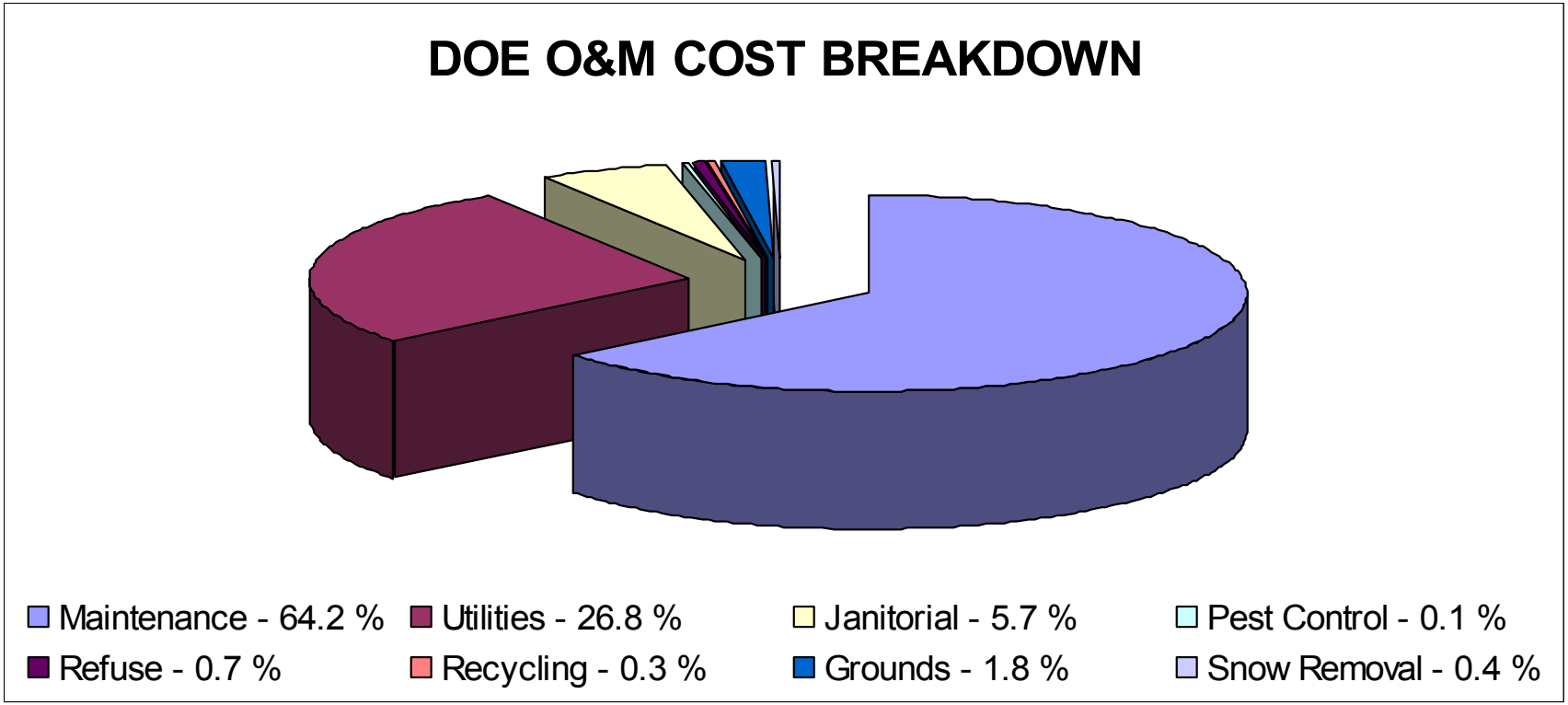
Reason: *Past economic life,*
improve system reliability

Cost: *$6.8 M*

Cost Avoidance: *Costs of unplanned outages*
Est. $500k/yr/average

DM Elimination: *$6.8M*

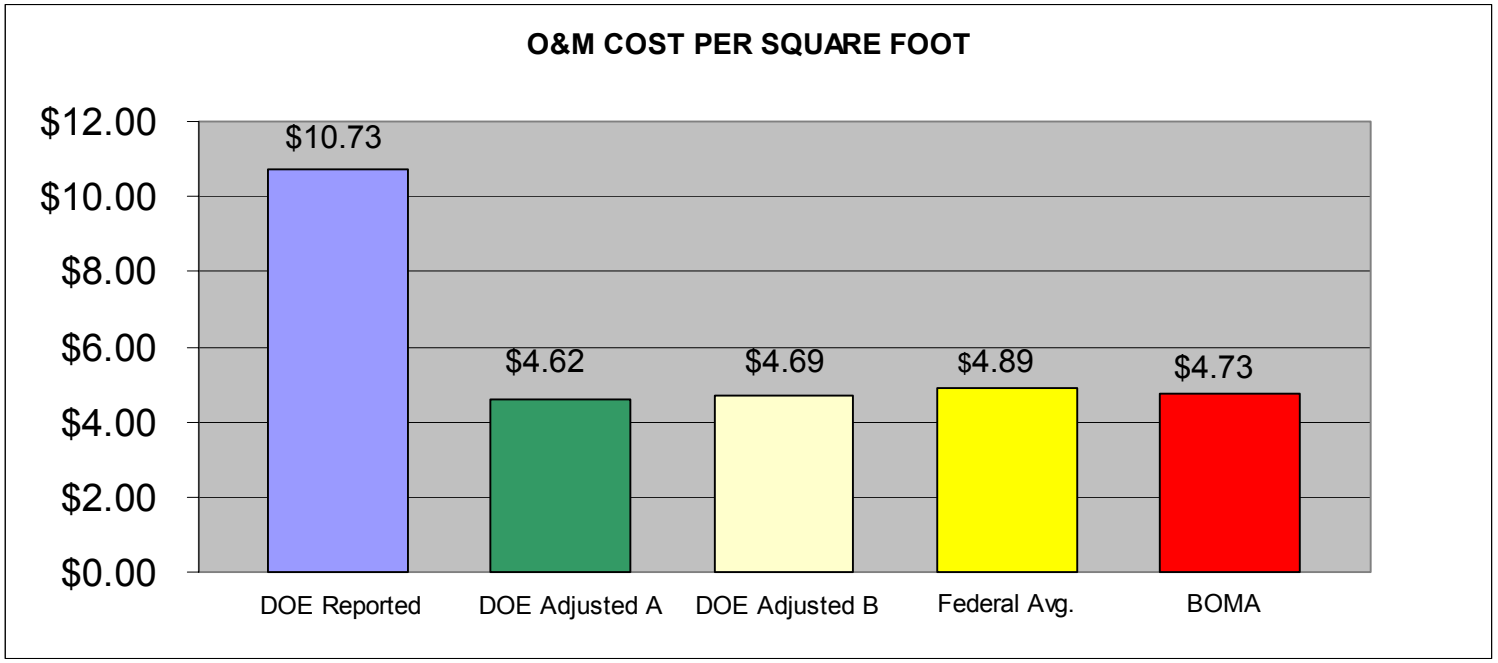
Results – Right Cost



- Maintenance and utilities account for 91 percent of O&M cost
- Following 80/20 rule – focus on maintenance & utilities

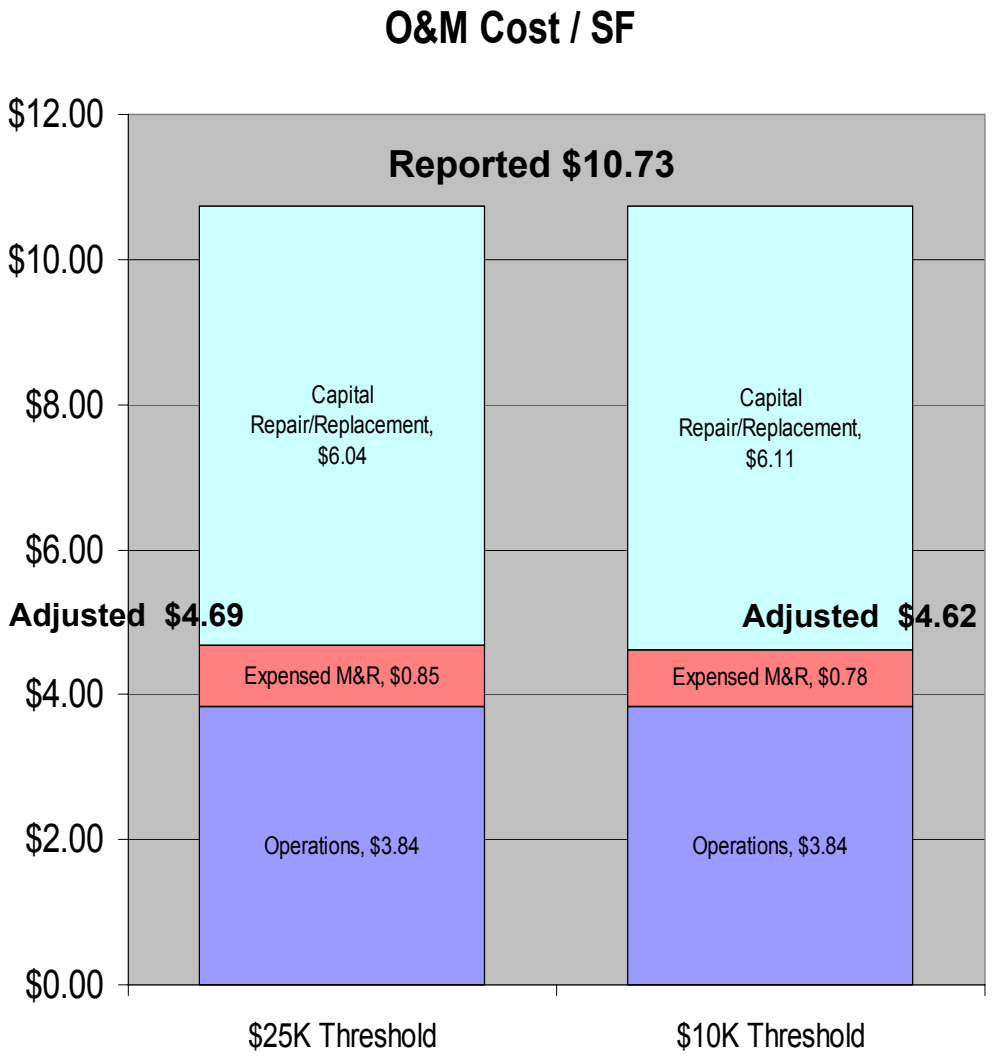
Results – Right Cost

- DOE is moving towards operating at right cost
- Capital repairs included in reported O&M cost
  - –Shows true cost of ownership
  - –Consistent with deferred maintenance reporting
  - –Consistent with budgeting
  - –To enable comparison with Building Owners and Managers Association (BOMA) and the Federal average, DOE data was adjusted to exclude capital repairs
  - –Adjusted DOE costs well within BOMA & Federal average



DOE Adjusted A = $10K Threshold. Adjusted B = $25K Threshold

Results – Right Cost



- DOE sustainment model shows task level maintenance cost by year
- Maintenance tasks greater than $10K account for 89 percent of life cycle M&R costs – tasks greater than $25K account for 88 percent
- Adjusted cost reflects 89 and 88 percent reduction of maintenance component of reported O&M cost
- Approximates what DOE reported cost would be if capital repairs were excluded, using a notional $10K or $25K threshold

Results –Right Cost

How We Manage at Right Cost

– TYSPs are reviewed and signed by the Lead Program Secretarial Office

- The signed TYSP becomes the site's execution plan.
- The Programs verify TYSP goals are met and hold sites accountable for project performance.

–Sites establish maintenance targets during budget process

- Aligns facility maintenance expectations to budget
- Facilitates efficient planning of maintenance/renewal activities

–Headquarters, Programs and Sites track maintenance targets quarterly

- Maintains visibility of maintenance activities
- Encourages a more uniform expenditure of funding. Employing life cycle cost estimating during project planning & selection

–Meeting Federal energy reduction targets & leverage energy-savings performance contracts

– Sharing maintenance best practices between sites

- Energy Facilities Contractors Group (EFCOG) funded by Department to establish and share best practices

–Sites are applying automated work management systems

- Analysis of resource, materials, and equipment usage and cost
- Optimization of maintenance schedules and labor utilization
- Aligns employee skills and certifications to job requirements
- Reduces unplanned downtime and reactive maintenance

–Normalizing maintenance costs to account for internal and external cost drivers (see next slides)

Incident Response Training Facility NTS

Results –Right Cost

Normalization of Maintenance Cost

- "Normalization" of maintenance costs between sites is ongoing
  - Normalization facilitates benchmarking and comparison
  - Allows sites to better gage maintenance and repair funding effectiveness considering internal and external cost drivers
    - Internal cost drivers
      - Labor rates, shop overheads, corporate overheads
    - External cost drivers
      - Contract costs or discounts, material costs
  - First application of normalization criteria will be applied to the FY06 maintenance data in 2nd Quarter FY07
  - Major milestone was establishment of average cost benchmarks and normal distributions (next two slides)

Feynman Computer Center
Fermilab

Results –Right Cost

Average Cost Benchmarks

Cost Element	Rates Fully Burdened With Productive and Corporate Overhead*	Rates With No Reported Productive Overhead*	Rates With No Reported Corporate Overhead*	Department of Labor Benchmarks**
Average Skilled Labor	$28.57	$28.04	$25.90	$19.52/**$24.17**
Average Fringe Benefits**	$12.45	$16.48	$14.17	$7.64/**$11.29**
Average Productive Overhead**	$20.42	Not Reported	$6.23	----------
Average Corporate Overhead**	$21.21	$11.92	Not Reported	----------
Average Total Composite Rate**	**$82.64**	**$56.44**	**$46.30**	----------

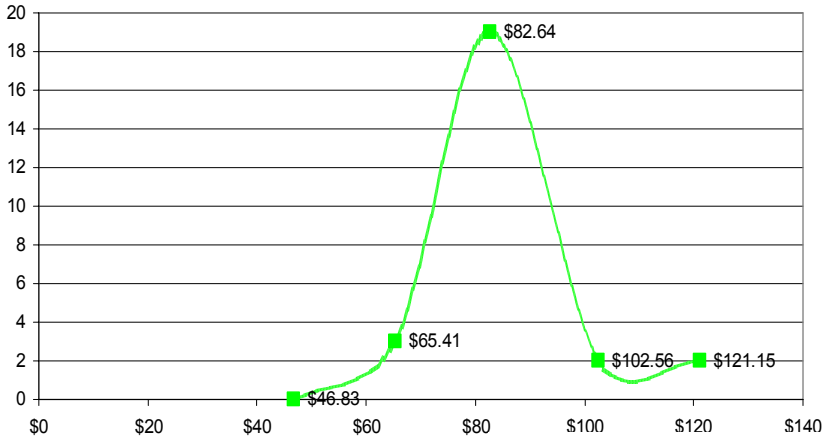
* Data provided by all major DOE Sites

**Benchmarked: Bureau of Labor Statistics; Compensation Costs Civilian Workers /Compensation Costs State and Local Government Employees (2005/2004 Data Inflated)

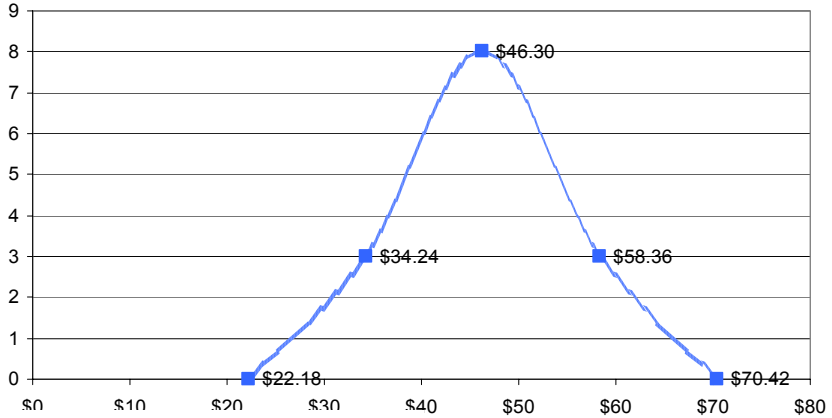
Results –Right Cost

Normal Distribution of Average Cost Benchmarks

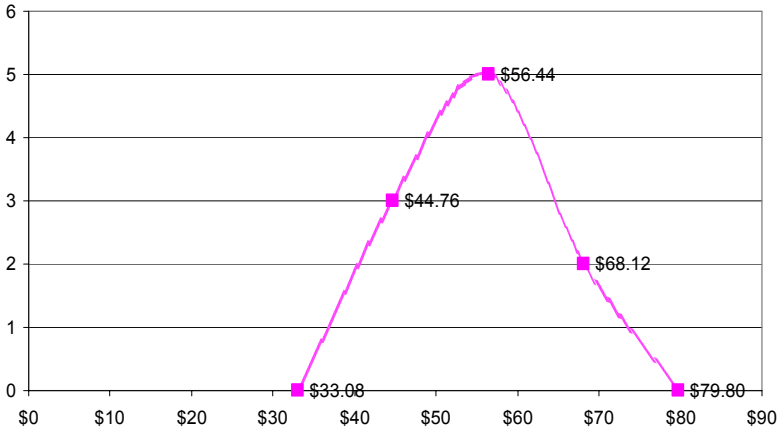
Distribution: Average Total Composite Rate per Hour
Includes Reported Productive and Corporate Overhead



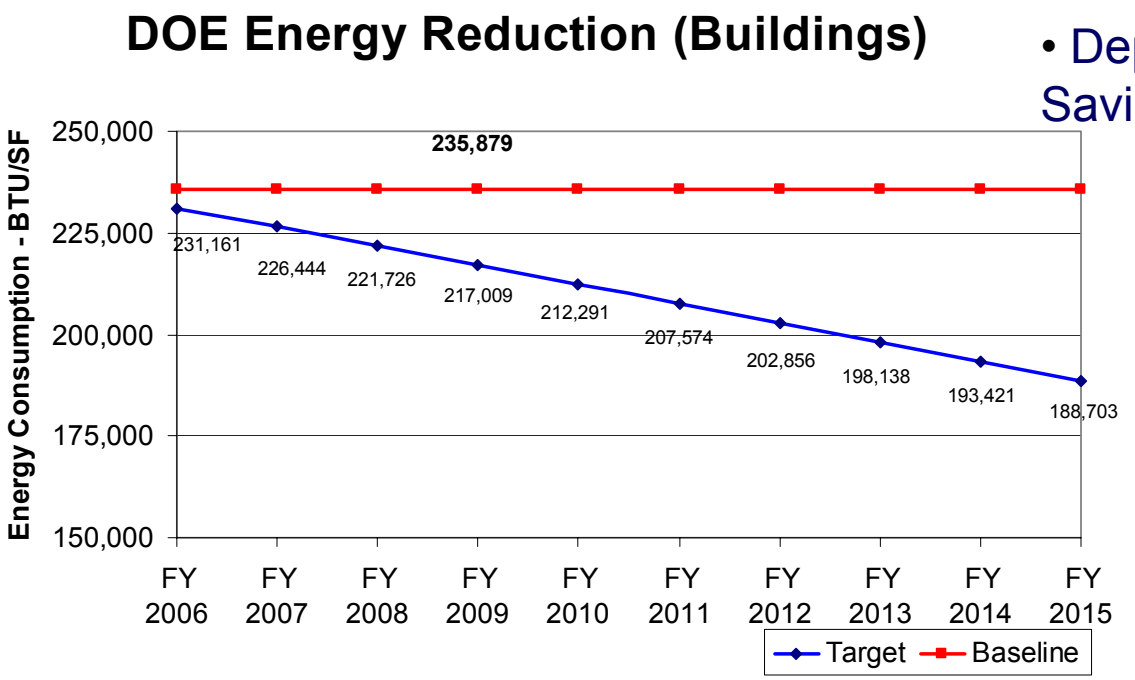
Distribution: Average Total Composite Rate per Hour
Includes Productive Overhead
(No Reported Corporate Overhead)



Distribution: Average Total Composite Rate per Hour
Includes Corporate Overhead
(No Reported Productive Overhead)



Results –Right Cost



FY 2006 – 2015 targets are from the Energy Policy Act of 2005 which mandates a 2% reduction in energy per year based on the FY 03 Baseline

- Department is making use of Energy Saving Performance Contracts (ESPC)
  - Up-front project costs financed by the contractor
  - Projects "self-funded" with costs paid out of energy savings over time
  - Savings and long-term performance guaranteed
  - Also improves facility condition and quality of workplace
- Long-term goal of <188,703 BTU/SF 2005 Energy Policy Act - 20% reduction from FY 2003 baseline by FY2015

Results –Right Cost

Reducing Energy Consumption

- Argonne ESPC (Phase 1) project – completed in 2005
  - Site-wide steamline insulation
  - Energy-efficient lighting
  - Window replacement
  - Variable frequency drives
  - HVAC controls
- Cost - $2.27 M
- Energy savings - $318 K per year
- Payback – 7.5 years
- Term – 17 years

New Steam Line Pipe Insulation and High Bay Lighting - Argonne

Results –Right Cost

Improving Reliability and Productivity

Typical Old Local Monitoring Panel

New Remote Monitoring & Control Panel

GPP - Site Wide Water & Waste Water Treatment Facilities Remote Monitoring System Argonne National Laboratory

GSF:	
Constructed:	*1951 - 1997*
RPV:	*$24.7 M*
Action:	*State of the art controller for site wide monitoring of Waste Water process (880 I/O points)*
Reason:	*Obsolete system, efficiency improvements*
Cost:	*$498 K*
Cost Avoidance:	*$150 K*

Results –Right Cost

Examples of Other Energy Efficiency Projects…

Ethanol Fueling Facility

Super Hi-Efficiency Boilers

Vehicle Refueling Station using Landfill Gas

Agenda

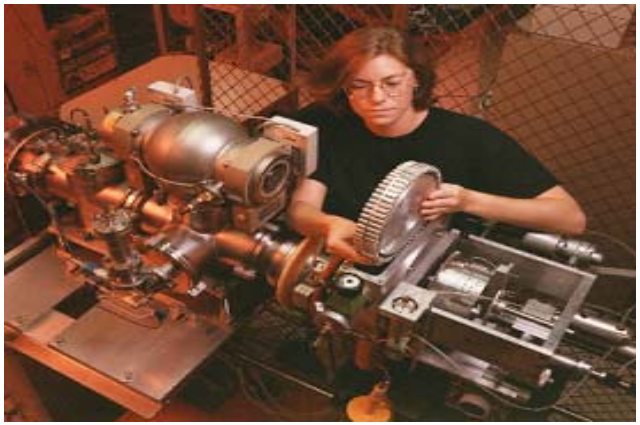
- About DOE
- DOE Portfolio Management
- PMA Compliance Overview
- Results
- Maintaining Green in the Future

Maintaining Green

"…'Getting to green' does not mark the end of our real property management journey…. Rather, it marks a single milestone in a process of continuous and durable improvement." **-** Ed Dailide, SRPO

- Continue to improve management decision making for real property
- Infrastructure as a driver in the Strategic Plan
- FIMS data validation program
- Enhancements to FIMS
- Sustainment modeling
- Normalization and benchmarking of site operating costs
- Annual update and standardization of common Ten Year Site Plan elements
- Quarterly reports to the Deputy Secretary
- Developing and sharing best practices

Conclusion



Center for Accelerator Mass Spectrometry
LLNL

National Atmospheric Advisory Release Center
LLNL

- DOE is actively engaged in improving real property management
- The partnership between OMB, DOE, and the FRPC generates leverage and contributes to our success
- We look forward to reaching and maintaining a green status